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THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| Applicants: | Tinku Acharya, et al. | § | Group Art Unit: | 2623 |
| Serial No.: | 09/722,982 | § | Examiner: | Mehrdad Dastouri |
| Filed: | November 27, 2000 | § | | |
| For: | Computing the Euler Number of a Binary Image | § | Atty. Dkt. No.: | ITL.0493US (P10273) |
| Customer No.: | 21906 | § | Confirmation No.: | 5885 |

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**REPLY BRIEF**

Sir:

This Reply Brief is addressed to the new points raised by the Examiner. Two points can be made. Claim 1 calls for identifying a representation of a binary image in a pixel matrix wherein the matrix includes a plurality of portions. Thus, the claim calls for a binary matrix, and a matrix having portions which, in subsequent clauses of the claim, are separately acted upon. The reference does not use a matrix divided into portions of the pixel matrix. In other words there is no division of the matrix into such portions and then computing the number of neighboring runs between those portions.

The second point is that the way that Di Zenzo calculates the Euler number is different from what is claimed in claim 1. Claim 1 calls for computing the Euler number from the number

of runs and the number of neighboring runs. Di Zenzo has a formula for calculating the Euler number at the top of page 85. It is determined as C – H, where C is the number of connected components and H is the number of holes. The number C is determined from the graphical analysis set forth in paragraph 3.1 and seems to have nothing to do with the number of runs or the number of neighboring runs. The calculation of the number of holes is done by a formula at the top of page 85 and, likewise, seems to have nothing to do with the number of runs and the number neighboring runs.

Thus, claim 1 cannot be anticipated by Di Zenzo because Di Zenzo does not break the pixel matrix into portions and compute the number of neighboring runs between the first portion and the second portion of the pixel matrix. Moreover, Di Zenzo also does not compute the Euler number from the number of runs and the number of neighboring runs.

Therefore, the rejection should be reversed.

Respectfully submitted,

Date: August 10, 2004

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